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Economic Considerations in Marketing Sweetpotatoes from the Eastern Shore of Virginia

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The Farmer Cooperative Service conducts research studies and service activities of assistance to farmers in connection with cooperatives engaged in marketing farm products, purchasing farm supplies, and supplying business services. The work of the Service relates to problems of management, organization, policies, merchandising, product quality, costs, efficiency, financing, and membership.

The Service publishes the results of such studies; confers and advises with officials of farmer cooperatives; and works with educational agencies, cooperatives, and others in the dissemination of information relating to cooperative principles and practices.

This study was conducted under authority of the Agricultural Marketing Act of 1946 (RMA, Title II).

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Highlights

Large surpluses of sweetpotatoes in 1959 caused the Eastern Shore of Virginia crop to be sold at prices below cost of production for many growers and below cost of distribution for many shippers.

In addition, growers and shippers in Accomack and Northampton Counties are becoming increasingly concerned about the implication upon their competitive position of changes in production, consumption, utilization, and distribution of this crop. Coupled with these have been changes in procurement practices and market requirements which are affecting established marketing procedures.

In view of these conditions and with hopes of developing means for a more orderly disposition of future crops at improved prices, representatives of the industry requested that an objective appraisal be made of their marketing program. In compliance with this request, Farmer Cooperative Service, U. S. Department of Agriculture, and the Virginia Department of Agriculture and Immigration, Richmond, Va., jointly undertook a study of the situation.

This report, based on the study, first points out some significant characteristics and trends of the sweetpotato industry and evaluates their probable implication to Eastern Shore of Virginia growers and shippers. The remainder of the report analyzes marketing practices and methods employed by growers and shippers in Accomack and Northampton Counties and then suggests certain changes which may help them to more fully capitalize on these trends.

Data relating to changes in the industry were obtained from published research findings and other statistics. Interviews with 88 Eastern Shore sweetpotato growers and an analysis of sales records of 30 shippers provided information on production, disposition, and marketing practices for the 1959 crop.

A review of some major changes in the industry revealed that growers and shippers on the Shore were operating in an environment characterized by:

1. Increasing competition from well-established growers and shippers in other sweetpotato producing areas.
2. A declining per capita consumption for fresh sweetpotatoes.
3. An increasing per capita consumption for processed sweetpotato products.
4. A marketing structure for fresh and processed sweetpotatoes which is becoming increasingly specialized.

These changes are significant to Eastern Shore of Virginia sweetpotato growers and shippers for several reasons. First, if the trend toward concentration of production in specialized areas on large efficient producing units should continue, future sweetpotato supplies can be expected to be more than the quantity needed for normal market requirements. Growers and shippers on the Shore must be prepared, therefore, to capture a share of the market from other well-established producers and packers, if sweetpotato sales are to be increased.

Second, the declining per capita consumption and high transportation costs for fresh sweetpotatoes and general acceptance of convenience food items have encouraged the growth of the processing industry. This means that growers and shippers of Eastern Shore sweetpotatoes will likely have to deal more and more with processors. This is conducive to the use of contracts. It should also mean a more intensive utilization of the crop, increased emphasis upon grade and size, and greater competition from other segments of the sweetpotato economy in the shipment and distribution of fresh and canning size sweetpotatoes.

Third, if the trend toward large-scale buying and mass distribution by corporate chains, voluntary chains, and processors should continue, buyers of sweetpotatoes for the fresh and processing markets will be fewer in number but, individually, they will buy in larger quantities. As producers and shippers of both fresh and processing sweetpotatoes, the Eastern Shore industry can be expected to provide an increasing number of services and a guaranteed volume of produce meeting specification standards.

There are certain areas in which changes in present marketing practices and methods might be made which would help growers and shippers in Accomack and Northampton Counties to best capitalize on overall changes taking place in the industry. Following are some factors and suggestions the Eastern Shore of Virginia industry should consider.

Quality Control (page 34)

- Grade more sweetpotatoes for all markets according to U. S. Standards for grade and size or some modification of these which will best serve industry requirements.
- Pack only sweetpotatoes meeting U. S. No. 1 grade standards or better.
- Give more support to the program of the Accomack-Northampton Sweet Potato Improvement Association.

Support of On-Shore Shippers (page 34)

- Consider the merits of marketing a larger proportion of the small-size sweetpotatoes cooperatively.
- Consider the feasibility of moving toward fewer but larger sellers.

Timing of Sales (page 35)

- Consider the advantages of utilizing storage more intensively.
- Exercise more care in selecting storable stock.

Market Channels (page 36)

- Have as an ultimate objective the direct selling of fresh market sweetpotatoes but continue to utilize other outlets which have proven profitable and reliable over the years.

Markets Served (page 36)

- Place greater emphasis upon fewer but larger buyers in a selected number of markets.

- Know at all times what is available to sell and fill orders for the fresh and processing markets as specified.

Marketing Contracts (page 37)

- Examine the merits of using marketing contracts as a prerequisite for obtaining a large and stable supply of sweetpotatoes meeting specified marketing standards.

Market Orders and Agreements (page 38)

- Consider marketing orders and agreements as tools for improving its competitive position.

Cooperative Marketing (page 38)

- Evaluate the feasibility of consolidating sales strength at the shipping point level to parallel changes taking place at the retail level.

Any modification in the present marketing program may require several intermediate steps. It also requires that growers, shippers, and processors agree on ways of approaching specific problems. The program must then be designed to answer as many problems as possible. And, because the answer to problems today may not be the right answer tomorrow, the program must be reviewed and evaluated periodically.

Economic Considerations in Marketing Sweetpotatoes from the Eastern Shore of Virginia

by
Clyde B. Markeson
Frank W. Bell
Leo F. Zimmerman

Representatives of the Eastern Shore of Virginia sweetpotato industry requested in January 1960 that an objective appraisal be made of their marketing program. They are becoming increasingly concerned about the impact upon their competitive position of changes in production, consumption, utilization, and distribution. Coupled with these have been changes in procurement practices and product requirements which are affecting established marketing procedures.

In compliance with this request, Farmer Cooperative Service and the Virginia Department of Agriculture and Immigration jointly undertook a study.

While this report primarily emphasizes economic considerations in marketing sweetpotatoes, other important factors need consideration. These include, for example, an evaluation of internal potato quality as related to storeability and market acceptance, the financial needs and production situation of growers, and attitudes and opinions of shippers regarding their operating methods. All segments of the Eastern Shore sweetpotato industry should weigh the importance of such factors in addition to those presented in this report.

The study first points out some significant changes which have occurred—and are taking place—in the sweetpotato economy, evaluates their implication to growers and shippers on the Shore, and then presents an analysis of their marketing program along with suggested courses of action which may help them to capitalize on these changes.

Characteristics of and Trends in the Sweetpotato Industry

Sweetpotato producers and sweetpotato marketing organizations must continually adjust their mode of operation if they are to capitalize on changes taking place on the farm and in the

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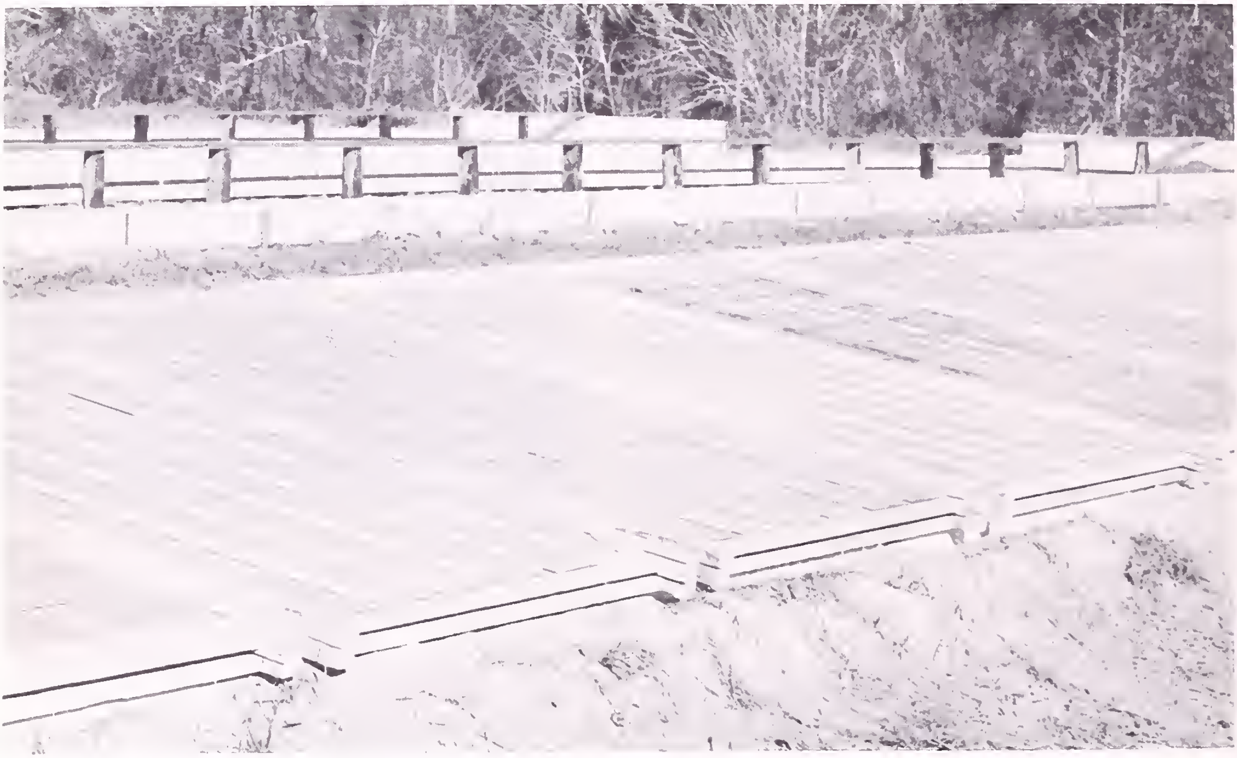
Acknowledgment: The authors wish to express their appreciation to the 88 sweetpotato growers and 30 shippers who provided information for the study. Frank W. Bell and Leo F. Zimmerman, Division of Markets, Virginia Department of Agriculture and Immigration, collected the field data. Clyde B. Markeson of Farmer Cooperative Service was coordinator of the project.

marketplace. A brief review of some basic changes—including changing patterns of production, consumption, utilization, and market channels for sweetpotatoes—will help all segments of the Eastern Shore industry to better understand their position in marketing this crop.

Over the years, production has been shifting from lower yielding to higher yielding areas. In the process, smaller inefficient producers have fallen by the wayside leaving larger efficient producers to compete with each other within and among specialized production areas. With the probable continuation of this trend, it appears that sweetpotato supplies may, at times, be in excess of the quantity which can be sold at satisfactory price levels.

Accompanying these developments has been a change in the pattern of sweetpotato consumption. Per capita consumption of the fresh product has declined markedly in the last 3 decades. On the other hand, canned sweetpotato consumption has steadily increased. But a considerable amount of utilization, technological, and promotional work remains to be done if the declining trend in total per capita consumption is to be halted or reversed.

In conjunction with the developments just mentioned has been a change in marketing channels. Large-scale buying of products on a specification basis is necessitating a much closer working relationship among growers,



Sweetpotato plants for transplanting are produced by bedding mother roots(seed) in beds such as these.

shippers, and distributors of fresh and processing sweetpotatoes than formerly existed.

To successfully compete within this framework, handlers of the fresh product must perform more services—such as prepackaging in consumer size containers—frequently performed at the terminal market level. The industry is finding it more essential to emphasize quality and to adhere to rigid grades and standards. Handlers of both fresh and processing sweetpotatoes are realizing the importance of having well-established outlets.

Society has probably benefited from these changes but, at the same time, they have created perplexing problems for both individual farmers and for agricultural marketing organizations including cooperatives and other first handlers. While the consequences of these changes are not known in a quantitative sense, a review of them will point out where the shifts have taken place and their probable effects upon the future development of the Eastern Shore of Virginia sweetpotato industry.

Production

Sweetpotato production has undergone some revolutionary changes in the past 3 decades (table 1). Except for 10 years when there were slight increases from previous years, harvested acreage has steadily declined since the 1930's and in 1959 was approximately one-fourth that of 1932. But, despite drastic reductions in acreage, substantial increases in yield per acre—from 82 bushels in 1932 to 124 bushels in 1959—coupled with a declining per capita consumption have often resulted in low prices to producers and supplies in excess of market requirements.

Two important factors affecting the yield trend have been the shift of sweetpotato production to specialized producing areas and increased size of the individual producing unit.

Concentrated in Specialized Areas

A large part of the increase in United States average yields obtained over the years has been due to a shift in the relative importance of production areas. In general, the Eastern States have become more important and the Southern States less important in the production of this crop.

In 1930-39, States in the Central Atlantic Area—New Jersey, Delaware, Maryland, and Virginia—produced only 11 percent of the total sweetpotato crop (table 2). By 1959, these States had increased their proportion of the total to 20 percent. On the other hand, production in the Lower Atlantic States—North Carolina, South Carolina, Georgia, and Florida—declined from 32 to 21 percent of the total for the period.

States in the South Central Area—Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas—showed no marked change from the earlier period and accounted for about one-half of all sweetpotatoes produced in both periods.

Shifts in production have been accompanied by rather substantial changes in acreage. In 1930-39, the Central Atlantic States had 8 percent of the acreage, the Lower Atlantic States 33 percent, and the South Central States 55 percent. Today, the Central Atlantic States have 16 percent, the Lower Atlantic States 22 percent, and the South Central States 57 percent.

Marked changes in sweetpotato production have also taken place in the State of Virginia. Average yields per acre have increased from 111 bushels in 1930-39 to 158 bushels in 1959.

Table 1—Acreage, yield, and production of sweetpotatoes, United State, 1932-59

Crop year	Acreage harvested	Yield per harvested acre	Production
	1,000 acres	Bushels	1,000 bushels
1932	1,059	82	86,594
1933	907	82	74,619
1934	959	81	77,677
1935	944	86	81,249
1936	769	78	59,765
1937	768	89	68,144
1938	793	87	68,603
1939	728	85	61,744
1940	648	80	51,699
1941	731	86	62,517
1942	687	95	65,469
1943	857	83	71,142
1944	726	94	68,251
1945	646	95	61,259
1946	637	96	60,825
1947	547	91	49,642
1948	455	95	43,094
1949	472	95	45,098
1950	489	101	49,580
1951	312	93	29,087
1952	322	91	29,164
1953	343	101	34,542
1954	332	94	31,269
1955	341	112	38,084
1956	284	108	30,764
1957	281	113	31,758
1958	266	119	31,605
1959	275	124	34,005

Source: Compiled from Crop Production reports and Agricultural Statistics, U.S. Dept. of Agr.

Table 2.—Shifts in sweetpotato production and acreage, 1930-39 and 1959

State grouping	Production shifts		Acreage shifts	
	1930-39[1]	1959[2]	1930-39[1]	1959[2]
	Percent of total production		Percent of total acreage	
Central Atlantic	11.0	20.4	7.5	15.5
Lower Atlantic	32.3	21.4	32.9	22.0
South Central	51.5	51.4	55.1	56.6
North Central	3.5	1.4	3.3	1.2
Western	1.7	5.4	1.2	4.7
Total	100.0	100.0	100.0	100.0

[1] Source: Agricultural Statistics, 1942. U.S. Dept. of Agr.
[2] Source: Crop Production, 1959 Annual Summary, December 16, 1959. Agricultural Marketing Service, U.S. Dept. of Agr.

And, as a proportion of the Nation's total production, Virginia's production has nearly doubled over the period (table 3). Currently, only Louisiana and North Carolina produce more sweetpotatoes than Virginia.

Like other specialized sweetpotato producing areas, Virginia production is also concentrated in a few counties and on a comparatively small number of farms (table 4). In 1949, farms located in Accomack and Northampton Counties represented 57 percent of the State's production. In 1959, farms in these counties accounted for an estimated 82 percent of the State's production.

Table 3. — Changes in sweetpotato production in Virginia for selected years

Period	Acreage	Yield per acre	Production	Percent of U.S. production
	1,000 acres	Bushels	1,000 bushels	Percent
1930-39	36.4	111	4,016	5.5
1954	18.5	149	2,758	8.8
1955	19.0	149	2,833	7.4
1956	16.9	142	2,396	7.8
1957	18.4	164	3,011	9.5
1958	19.1	162	3,091	9.8
1959	22.5	158	3,560	10.5

Source: Commercial Vegetables, November 1960, Bulletin 19-C, Va. Dept. of Agr. and U.S. Dept. of Agr.

Table 4. -- Leading sweetpotato counties in Virginia, 1949 and 1959

County	Acreage		Production	
	1949 1/	1959	1949 1/	1959
	Acres		Bushels	
Accomack	6,615	2/ 10,914	758,915	2/ 1,834,903
Northampton	1,759	2/ 6,587	281,075	2/ 1,092,370
Total	8,374	3/ 17,501	1,039,990	3/ 2,927,273
Percent of Virginia total	62.4	77.8	56.7	82.2

1/ Census of Agriculture.

2/ Estimated from grower survey.

3/ Commercial Vegetables, November 1960, Bulletin 19-C, Va. Dept. of Agr. and U.S. Dept. of Agr.

Larger Individual Producing Units

The size of the sweetpotato production unit in the United States also reveals specialization. Census of Agriculture data show that farms growing 10 acres or more of sweetpotatoes produced 26 percent of the 1949 crop as compared to 44 percent in 1954. The total number of farms reporting this crop declined 24 percent in the period. However, the larger farms, those raising 25 or more acres of sweetpotatoes, increased 39 percent. These farms produced 22 percent of the 1954 crop compared to 4 percent in 1949.

The size of the production unit is also becoming more specialized within the State of Virginia (table 5). Farms growing 10 or more acres of sweetpotatoes produced 47 percent of the 1949 crop compared to 78 percent in 1954. From 1949 to 1954, the number of farms having 25 acres or more of sweetpotatoes increased 219 percent. These farms produced 18 percent of Virginia's sweetpotato production in 1949 compared to 56 percent in 1954.

The degree of specialization in the size of the producing unit in Virginia is particularly pronounced on the Eastern Shore (table 6). In 1959, sweetpotato acreage of the farms surveyed in Accomack County ranged from 7 to 400 acres. The average acreage was 52, which represented 29 percent of the total cultivated acres in farms. Farms growing 25 or more acres of sweetpotatoes accounted for 93 percent of total county production.

The range in sweetpotato acreage in Northampton County was from 4 to 225 acres. The average acreage was 41, which represented 23 percent of the total cultivated acres. Producers raising 25 acres or more of sweetpotatoes accounted for 90 percent of total county production.

Implications for Eastern Shore of Virginia

These characteristics and trends are important to the Eastern Shore industry for several reasons. First, they indicate that New Jersey will continue to be Virginia's largest competitor in the East; North Carolina in the Lower Atlantic Area; and Louisiana, Mississippi, and Texas in the South Central Area.

Second, these developments indicate that the marginal grower is continually being forced out of production. Fewer farmers are now growing small patches of sweetpotatoes; a large part of the crop is being produced by commercial growers having large acreages and using intensive production techniques. If the Eastern

Table 5.—Number of Virginia farms growing sweetpotatoes and total production, 1949 and 1954 crop censuses

Potato acreage per farm	Farms reporting 1949	Farms reporting 1954	Production 1949	Production 1954
Acre (s)	Number		1,000 bushels	
Small plot	34,137	38,505	206	190
0.1 - 0.9	7,937	1,495	225	53
1.0 - 1.9	710	466	74	46
2.0 - 2.9	258	175	64	42
3.0 - 9.9	627	383	409	288
10.0 - 24.9	293	264	534	620
25 or more	65	207	323	1,546
Total	44,027	41,495	1,835	2,785

Table 6. — Estimated average acres cultivated and average acres in sweetpotatoes per farm, Eastern Shore of Virginia, crop year 1959

County	Acres of sweetpotatoes per farm			Average cultivated acres per farm	Percent of cultivated acres in sweetpotatoes
	Low	High	Average		
		Acres		Acres	Percent
Accomack	7	400	52	176	29
Northampton	4	225	41	179	23
Average			47	177	27

Shore sweetpotato industry is to continue to expand, it must be prepared to capture a share of the market from well-established growers located in highly specialized production areas.

Third, Accomack and Northampton Counties will probably continue to become more important in the production of Virginia sweetpotatoes. And of these two counties, there is evidence that Northampton is becoming more important than Accomack.

Utilization and Consumption

Nationally sweetpotatoes are utilized primarily as a food crop for domestic consumption. A portion of the crop is used for seed stock; and stringy, misshapen, cut, damaged, or other unmarketable potatoes are salvaged for livestock feed. There is, in addition, some shrinkage or other loss.

Proportion Sold from Farms Increasing

Two marked changes have occurred in the pattern of utilization. First, the proportion of the total crop sold from farms has steadily increased and in recent years amounted to approximately 55 percent of total production compared to 35 percent in the late 1920's and early 1930's. The declining proportion used for household purposes reflects a reduction in number of farms growing this crop solely for home use, the concentration of production in specialized areas, and large individual producing units.

Proportion Purchased by Canners Increasing

A second striking change in the utilization of sweetpotatoes has been the increasing proportion purchased by canners. In 1940, canners purchased only 5 percent of total United States farm sales of this product (table 7). In 1950, about one-fifth of total farm sales went into cans but by 1958 canning utilized 37 percent.

Table 7.—Farm sales of sweetpotatoes and percent sold to canners, United States, 1940 and 1949-58

Year	Farm sales	Canned sweetpotatoes	
		Quantity	Percent of total farm sales
	Million bushels	Million bushels	Percent
1940	21.4	1.0	5
1949	20.8	3.1	15
1950	23.5	4.3	18
1951	15.1	3.2	21
1952	16.0	5.0	31
1953	19.8	4.9	25
1954	17.5	4.1	23
1955	20.9	5.1	24
1956	17.2	5.1	30
1957	17.5	5.3	30
1958	19.1	7.0	37

Source: National Canners Association.

All areas have not shared equally in this expanding sweetpotato market (table 8, column 3). In 1948, canners utilized 25 percent of all farm sales in Virginia, Maryland, and New Jersey. In the same year, sales for canning represented 7 percent of farm sales in Louisiana, Mississippi, and Alabama. But, by 1958, little difference existed between these two production areas in the proportion of the crop sold as canning stock.

The increasing importance of canning in the Southern States is also reflected in their share of the National canned sweetpotato pack (table 8, column 4). In 1948, 70 percent of the Nation's pack of canned sweetpotatoes originated in Virginia, Maryland, and New Jersey compared to 26 percent in Louisiana, Mississippi, and Alabama. By 1958, however, southern canners had replaced the eastern group as the most important canning area.

Declining Per Capita Consumption of Fresh Sweetpotatoes

Although the per capita consumption of fresh sweetpotatoes has fluctuated widely from year to year, there has been a decided downward trend over the years (table 9).

Increasing per capita income has probably been the most important factor contributing to this trend. Data from the 1955 Food Consumption Survey shows, for example, that fresh sweetpotato consumption averaged the highest in households of less than $4,000 a year and somewhat less in higher income groups. In contrast, consumption of other vegetables increased as income increased (3).[1]

Another factor which may have contributed to the downward trend has been the shift in population from rural to urban areas. A decline in the proportion of the population engaged in strenuous physical labor is associated with a decreased demand for high energy foods with fairly high starch content, and an increased demand for low calorie foods.

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[1] Figures underlined and in parentheses refer to literature cited, page 40.

Table 8. -- Production of canned sweetpotatoes by areas, 1948-58

Year	Virginia-Maryland-New Jersey			Louisiana-Mississippi-Alabama		
	Cases packed	Canned as a percent of farm sales	Percent of U.S. pack	Cases packed	Canned as a percent of farm sales	Percent of U.S. pack
	1,000 cases	Percent	Percent	1,000 cases	Percent	Percent
1948	1,025	25	70	385	7	26
1949	1,461	40	57	897	15	35
1950	1,972	48	57	1,255	17	36
1951	1,506	41	57	897	17	34
1952	2,041	57	49	1,439	23	34
1953	2,040	41	49	1,479	21	35
1954	1,635	32	47	1,276	19	36
1955	1,746	33	39	1,783	22	40
1956	2,056	43	47	1,773	25	40
1957	2,015	41	43	1,818	32	39
1958	2,370	43	39	2,684	39	44

Source: National Canners Association.

Table 9.—Per capita consumption of sweetpotatoes, 1932-58

Calendar year	Per capita consumption of sweetpotatoes	
	Fresh	Canned
	Pounds	Pounds[2]
1932	27.7	0.1
1933	24.0	0.1
1934	24.4	0.1
1935	25.6	0.1
1936	19.8	0.1
1937	21.5	0.1
1938	21.3	0.1
1939	19.7	0.1
1940	16.2	0.2
1941	18.4	0.3
1942	20.4	0.2
1943	21.4	0.3
1944	19.7	0.3
1945	18.3	0.3
1946	17.2	0.7
1947	14.5	0.5
1948	11.5	0.3
1949	11.7	0.5
1950	12.1	0.7
1951	8.1	0.4
1952	7.3	0.8
1953	8.0	0.7
1954	8.0	0.6
1955	8.2	0.8
1956	7.6	0.8
1957	7.2	0.8
1958	6.7	1.1
1959[1]	7.0	1.2

[1] Preliminary.
[2] To convert to fresh equivalents, multiply each figure by 1.114.

Source: The Vegetable Situation, 1961 Outlook Issue, October, 1960. Agricultural Marketing Service, U.S. Dept. of Agr.

Another important consideration has been the trend toward processed products. Innovations in processing in recent years have made it possible to provide canned and frozen vegetables to consumers in larger quantities than ever before. Homemakers have responded favorably and the consumption of processed vegetables has increased markedly during the past 2 decades (1).

A probable continuation of these trends means that further declines in the per capita consumption of fresh sweetpotatoes can be expected for some years.

Increasing Per Capita Consumption of Canned Sweetpotatoes

While consumption of the fresh product has steadily declined, per capita consumption of the canned product has steadily increased (table 9). In 1959, the quantity of canned sweetpotatoes was 2 times greater than in 1954 and 12 times that of the period 1932 to 1939.

Indications are that per capita consumption of the canned product will continue to increase. Many factors, however, including technological change, merchandizing efforts, and shifts in consumer food patterns could affect the rate of this increase. For example, "instant" sweetpotatoes in flake or granular form are now in the preliminary stage of pilot-plant development. When and if commercial processing procedures are developed and if the products meet consumer acceptance, they will offer an additional outlet for oversized and malformed sweetpotatoes, which account for from 30 to 50 percent of annual yields.

Implications for Eastern Shore of Virginia

Sweetpotato consumption is at a rather low level from the viewpoint of the industry. In addition, economists estimate that market demands 15 years from now can be satisfied with a production slightly more than today's production. All segments of the Eastern Shore of Virginia sweetpotato industry should realize that future supplies may, from time to time, be larger than can be marketed at satisfactory prices.

The industry should also recognize that the declining per capita consumption of fresh potatoes and increasing consumption of the canned product will probably encourage growth

This four-row sweetpotato plant setter with supplemental watering attachment is being used on the Eastern Shore of Virginia.

of the processing industry. This means that the Virginia producer will deal more and more with processors. This situation is conducive to contract purchasing, which is familiar to growers raising crops for canning and preserving.

To the grower, shipper, and distributor, it will mean (1) a more intensive utilization of the sweetpotato crop, (2) increased emphasis upon interior potato quality, (3) greater adherence to uniform grades and standards, and (4) increased competition from other segments of the economy in the production, shipment, and distribution of fresh and processing sweetpotatoes.

Distribution

Along with changes in production, consumption, and utilization of sweetpotatoes have been changes in market structure and marketing practices at the retail level. These changes are affecting established marketing procedures.

Changing Market Structure

One of the most striking changes in the system of food distribution has been the shift toward large-scale purchasing and mass distribution at the retail level (6). While the total volume of food sales grew from $10 billion in 1939 to $50 billion in 1958, the number of food stores declined from 561,000 to 335,000—a decrease of 40 percent. But the number of large departmentalized supermarkets having sales of $500,000 or more annually nearly doubled in the 5-year period 1954 through 1958. These larger stores, while representing only 7 percent of all food stores, accounted for nearly two-thirds of the estimated total grocery sales in 1958.

Or, to state the changing conditions in another way: From 1948 to 1958, the sales of all retail food chains of 11 or more stores increased 117.9 percent; those of all food stores 72.1 percent; and combined sales of all grocery store companies with 10 or less units and all specialty stores, 53.2 percent.

Changing Procurement Practices

Accompanying the growth in size of firm in the food business have come changes in buying practices. The trend is toward direct buying and closer coordination with suppliers.

Almost all large retail chain organizations buy produce direct from shippers through their own salaried buyers. Advantages of this practice include the possibilities of greater control over quality and volume through selection of sources and elimination of terminal market handling charges.

Smaller chains generally rely upon terminal market wholesalers or brokers for their source of supply. In a number of cases they utilize the services of a wholesaler or broker serving several chain stores.

Both large and small chains make some purchases of produce from city market dealers to supplement their needs. For example, terminal markets are utilized by chain stores when the quantity needed exceeds the quantity bought direct or when the quantity purchased fails to measure up to the anticipated quality.

According to market surveys conducted by the Virginia Department of Agriculture and Immigration personnel in 1959, chains in three major cities purchased the bulk of their deliveries directly from shippers (11).

Carlot distributors, other than chains, also emphasized direct buying. For example, wholesalers in the Columbus, Ohio, market area in 1959 commonly purchased sweetpotatoes direct from shippers by the drop shipment method—that is, purchases from one shipper are divided among several wholesalers. This type of cooperation is designed to help them retain their share of the chain store business.

Carlot distributors in the Indianapolis, Ind., market area also bought most of their supplies direct from shippers. They felt that direct purchasing was preferable to consignment sales in procuring quality sweetpotatoes on a continuous basis.

With the exception of wholesalers in the Cincinnati, Ohio, market, all chain store and wholesale buyers interviewed in the three midwestern markets felt that direct buying should continue to become more important and that consignment sales should be limited to the disposition of off-quality sweetpotatoes.

Market Demands Specific

The surveys also highlighted the need for a constant supply of quality produce—properly graded, packed, and labeled.

In general, large-volume buyers expressed a preference for sweetpotatoes of No. 1 quality or better, packed in new containers, and properly labeled. Only a few buyers expressed a desire to receive potatoes of lower quality.

Several chain stores and wholesalers palletizing sweetpotatoes expressed a desire for

Virginia growers and shippers to perform alternative services such as packing in a 50-pound wirebound crate or carton rather than in the conventional export tub.

Suggestions also were made by large-volume direct buyers that shippers on the Eastern Shore exercise greater care in sizing and grading so as to obtain a product of uniform appearance and reduce the number of misshapen potatoes. Skinning and mechanical defects were mentioned as other factors adversely affecting quality and price of sweetpotatoes in some markets.

Implications for Eastern Shore of Virginia

Basically, the Virginia industry must gear itself to what has been referred to as the revolution in marketing. The concentration of bargaining power at the retail level is an established fact, and there is every reason to believe that the trend will continue.

To operate most successfully in this environment, growers and shippers must provide an adequate flow of produce with specifications required by the trade. Large-scale buyers expect certain physical services to be performed at the grower or shipping point level, or both, or to have the product in such a condition that they can perform the services themselves. Such services include grading, storing, prepackaging, and delivering.

Large-volume chain store and wholesale buyers also expect growers and shippers to perform certain nonphysical marketing services. These include providing a guaranteed volume and a willingness to back up quality standards. The Virginia sweetpotato industry is likely to find it essential to provide both the physical and nonphysical services demanded by these buyers and distributors if it is to compete most effectively within this marketing environment.

Here sweetpotatoes are being dug with a general-purpose tractor plow. All roots not exposed by the plow are "scratched out" by hand.

This means that growers and handlers should appraise present grading, packing, storing, selling, and promotional methods. It also means that the use of a marketing contract should be considered as a prerequisite for obtaining a large volume of sweetpotatoes meeting specified marketing standards.

And, a continuation of the trend toward organized direct buying and mass distribution—plus a declining per capita consumption of the product—is likely to result in individual growers and handlers finding that they are unable to bargain effectively for price and other terms of the sale. This situation is conducive to cooperative marketing among growers and to the development of coordinated selling programs among handlers.

Marketing Eastern Shore of Virginia Sweetpotatoes

Previous portions of this report have highlighted some changes that have contributed to prolonged and repeated marketing difficulties of the sweetpotato industry in the United States and pointed out the implication of such trends upon Eastern Shore of Virginia growers and shippers.

This section analyzes marketing practices and methods employed by growers and shippers in Accomack and Northampton Counties and suggests certain changes that might help them to capitalize more fully on these trends.

The analysis is not intended to be an exhaustive summary of all the issues involved. Rather it points out those economic considerations fundamental to providing a volume of produce with physical attributes that fulfill the technical requirements of today's retailers and processors. Such factors as the financial position of growers and shippers, their attitude concerning the present marketing program, and their willingness to support a modified one have not been considered. The relative importance of such factors must, of course, be weighed by all segments of the industry, in addition to those discussed.

Two previous studies provided some measure of the changes in marketing practices which have occurred at both the grower and the shipping point level during the past decade. One conducted by the U.S. Department of Agriculture in 1950 included Wicomico, Worcester, and Somerset Counties, Md., and the two Virginia counties of Accomack and Northampton (5). Another, conducted by the University of Maryland in 1957, included Wicomico, Worcester, and Anne Arundel Counties of Maryland (4).

In some respects, these studies and the present one are comparable since varieties produced, growing conditions, and marketing problems are very much the same in all counties.

Marketing by Growers

Published research findings and other statistics show that sweetpotato marketing at the grower level in Accomack and Northampton Counties is decentralized in many respects. It involves (1) lack of uniform grades and standards in selecting merchantable stock, (2) a concentration of sales at harvest time, (3) selling a bulk of the sweetpotatoes not meeting fresh market requirements to truckers who, in turn, deliver and resell to processors, and (4) selling a major portion of the fresh-market sweetpotatoes to a few shippers.

A farm survey provided data relative to these practices for the crop year 1959 and for the marketing season 1959-60. For an explanation of the sampling procedure, see appendix, page 42.

Selection of Merchantable Stock

Since shippers and processors prepare and sell what growers market, sweetpotato producers play a most important role in determining the quality of sweetpotatoes leaving the Eastern Shore. The way in which growers select merchantable stock is, therefore, one factor to consider in developing an effective marketing program.

It is a common practice for growers in Accomack and Northampton Counties to grade sweetpotatoes in the field at harvest time, both for immediate sale and for storage. This involves sorting out roots not meeting fresh market requirements from those to be sold for fresh use. In some cases, growers field grade and regrade in the packing shed. With few exceptions, stored sweetpotatoes are regraded upon removal from storage.

Grading practices for the estimated 2,927,000 bushels of sweetpotatoes produced in this area in 1959 were as follows:

One percent, or 29,300 bushels, were graded out and left in the fields harvested because they were cut, bruised, misshapen, or diseased.

Four percent, or 108,300 bushels, were left in the fields harvested due to lack of a market outlet.

Five percent, or 148,800 bushels, were retained for seed.

Thirty-eight percent, or 1,111,700 bushels, were graded as sizes not meeting fresh market requirements.

Fifty-two percent, or 1,528,900 bushels, were graded as fresh market sweetpotatoes.

Or, considering only those sweetpotatoes intended for sale (table 10):

Forty-two percent were graded as sizes not meeting fresh market requirements.

Fifty-eight percent were graded as sizes desirable for fresh market.

While field grading should save time and reduce the expense of handling at the packing shed, storage house, or processing plant, in many instances it is not sufficiently well done to eliminate the necessity for regrading. For example, only 1 percent of the total crop was left in the fields harvested because the potatoes were cut, bruised, misshapen, or diseased.

Several of the growers interviewed admitted that this percentage was too low and, consequently, considerable quantities of poorer quality roots were left in the merchantable stock. To the extent that this practice resulted in lower quality, prices received by growers for all sweetpotatoes may have been adversely affected.

Timing of Sales

Heavy sales at harvest time, followed by intermittent if not complete cessation of sales thereafter, may encourage shippers and consumers to seek alternative sources of supply. Timing of sales, therefore, is another factor to be considered by growers if they are to satisfy

Table 10.—Estimated disposition of merchantable sweetpotatoes by growers, Eastern Shore of Virginia, crop year 1959

County	Quantity produced			Disposition of merchantable stock					
	Total	Golden 1/	Porto Rico 2/	For fresh market		For processing		Total	
		1,000 bushels		1,000 bushels	Percent	1,000 bushels	Percent	1,000 bushels	Percent
Accomack	1,834.6	1,791.4	43.2	870.1	51.5	819.4	48.5	1,689.5	100
Northampton	1,092.4	741.0	351.4	658.8	69.0	292.3	31.0	951.1	100
Total or average	2,927.0	2,532.4	394.6	1,528.9	57.9	1,111.7	42.1	2,640.6	100

1/ Includes Nemagold, Allgold, Sunnyside, Vates Golden, and Jersey Orange.
2/ Includes Goldrush, Oklamar, and Virginian.

buyer needs and consumer demands for a continuous flow of produce over the season.

It is a typical practice for Eastern Shore of Virginia sweetpotato growers to market more than three-fourths of the crop during the harvest period without curing or storing. In addition, this quantity is marketed at a time when harvesting is in progress throughout the important production areas of the United States.

During the crop year 1959, growers sold an estimated 84 percent of all merchantable stock, or 2,212,100 bushels, during the months of July, August, September, and October. The remaining 428,500 bushels, which represented 16 percent of the total, were stored in the grower's name for sale at a later date (table 11).

Another explanation given by growers for the small percentage of their crop moving into storage in 1959 was that the golden type sweetpotato did not generally hold up well in storage for an extended period. Data from growers lend support to this opinion (table 12, page 16). Losses due to poor quality, shrinkage, and rot for the golden type ranged from 17 to 100 percent and averaged 24 percent of total volume stored. More than half the storage had losses of 25 percent or more. In contrast, losses for Porto Rico type ranged from 0 to 50 percent and averaged 20 percent. Less than half the storage had losses exceeding 25 percent.

Market Channels

Sweetpotato growers on the Eastern Shore of Virginia use several outlets in marketing their sweetpotato crop. These include truckers, local retailers, produce stands, terminal market receivers, and shipping point sales agencies.

Table 11.—Estimated timing of sweetpotato sales by producers, Eastern Shore of Virginia, crop year 1959

County	Total quantity	Sold at harvest time		Stored for later disposition	
	1,000 bushels	1,000 bushels	Percent	1,000 bushels	Percent
Accomack	1,689.5	1,481.7	87.7	207.8	12.3
Northampton	951.1	730.4	76.8	220.7	23.2
Total or average	2,640.6	2,212.1	83.8	428.5	16.2

Timing of sales varied with the quality of produce marketed. Of the estimated 1,528,900 bushels intended for the fresh market, 72 percent were sold at harvest time and 28 percent were stored. On the other hand, almost all the sweetpotatoes not meeting fresh market requirements were sold from the field while harvesting was in progress.

The urge to sell at harvest time is in part traceable to a lack of adequate curing and storage facilities and to the growers' need for ready cash. Others sell at harvest time if they feel that the price is "satisfactory" but if price is considered to be unsatisfactory, they store a greater portion of the crop.

By Volume Marketed.—After deducting loss in storage, an estimated 1,431,700 bushels were sold by growers as fresh market sweetpotatoes in 1959. Of this quantity:

Eighty-seven percent, or 1,250,000 bushels, were sold to, or marketed by, Virginia shippers.

Six percent, or 90,200 bushels, were sold to truckers.

Five percent, or 70,100 bushels, were sold to out-of-State shippers.

Two percent, or 21,400 bushels, were sold through other market channels.

Of the estimated 1,111,700 bushels not meeting fresh market requirements:

Fifty-two percent, or 583,400 bushels, were sold to Virginia canners, either by direct sales or by truckers who had purchased from growers.

Twenty-eight percent, or 306,600 bushels, were sold to, or handled by, Virginia shippers marketing sweetpotatoes for processing.

Fifteen percent, or 166,700 bushels, were sold to out-of-State canners.

Five percent, or 55,000 bushels were sold to canners whose location was unknown to growers.

Eighty-seven percent of all fresh market sweetpotatoes and 80 percent of those not meeting fresh market requirements were sold to, or marketed by, on-Shore sales outlets.

When compared with the results from other studies, the data indicates that growers marketed a larger proportion of their sweetpotato volume through on-Shore shippers in 1959 than in 1956 or 1949. The most pronounced change was in marketing potatoes not meeting fresh market requirements.

Before 1956, growers sold nearly all cannery-size sweetpotatoes to truckers who, in turn, delivered and sold to processors. The trucker made his expense and profit by giving the grower the "delivered to canning house price" less a freight charge. He also bought by bushel volume and sold to the processor by bushel weight, usually netting at least 5 percent overrun in bushels sold compared to bushels purchased.

In view of these circumstances, the cooperative marketing of cannery-stock sweetpotatoes was undertaken in 1956. In the 5 years that the Northampton Marketing Cooperative, Inc., has been a factor in disposing of this part of the crop, considerable progress has been made in serving the quantity and quality requirements of processors and in reducing handling costs. A substantial part of this advance must be credited to the association, since the increase in quantities marketed cooperatively and the decrease in sales to truckers have been gradual and consistent during the period.

The association has members throughout Accomack and Northampton Counties. Members are expected to comply with certain requirements related to financing the association and other conditions prescribed by the board of

Table 12. — Estimated quantity of sweetpotatoes stored by producers and loss from shrinkage and rot, Eastern Shore of Virginia, crop year 1959

Type of sweetpotato	Quantity stored	Loss in storage	
	1,000 bushels	1,000 bushels	Percent
Golden[1/]	302.3	71.8	23.8
Porto Rico[2/]	126.2	25.4	20.1
Total or average	428.5	97.2	22.7

[1/] Includes Nemagold, Allgold, Sunnyside, Vates Golden, and Jersey Orange.

[2/] Includes Goldrush, Oklamar, and Virginian.

directors. After a grower has met requirements for admission to membership, the association issues him a certificate of common stock in form prescribed by the board.

The association requires a nominal initial capital contribution for membership in the association. Retaining capital earned through operations or withholding patronage dividends represent a more important method for accumulating capital. Members exercise control of the cooperative through voting privileges. One-member, one-vote, regardless of the amount of capital contributed or stock held is the basis for voting.

While the articles of incorporation permit the association to provide other services, it has specialized in selling cannery-size sweetpotatoes. In this capacity, the cooperative provides a sales service to growers and helps to fulfill the quantity, quality, and variety requirements of processors.

The manager of the association is in daily contact with processors and makes arrangements relating to time, place, price, and delivery.

A large percentage of the volume marketed by the association is delivered to one of two loading points. Here the roots are weighed and either dumped into pallet boxes or consolidated in bulk with other lots. In those cases where the grower has no transportation facilities, the association will furnish a truck.

Then accepted by the association and by the processor, the sweetpotatoes become part of a weekly pool. The cooperative pays a grower once a week, holding back the first week's sale and paying a week late thereafter. To cover selling, operating, and other costs, the association deducts 5 cents a bushel as full compensation for its services.

By Number of Buyers.—Although growers mentioned 39 on-Shore agencies as handlers of

Sweetpotatoes "scratched out" in the fields are placed in these bushel baskets.

their sweetpotato crop, a major portion of the volume was actually sold to a relatively small group. From the standpoint of fresh sales, growers sold 55 percent of their volume to, or through, 6 of 32 shippers. And, in marketing sweetpotatoes not meeting fresh market standards, growers sold 85 percent of their volume through three of seven outlets.

In total, nine agencies, while constituting less than one-third of all organized market outlets in Accomack and Northampton Counties, marketed more than two-thirds of the total volume.

Prices Received

Because few growers grade their crop according to U. S. Standards For Sweetpotatoes or according to standards of the Accomack-Northampton Sweet Potato Improvement Association, prices received by growers for different grades, sizes, and varieties could not be accurately determined. For this reason, discussions relating to prices received by growers are presented in rather general terms.

In total, fresh sales at harvest time were accompanied by the lowest prices of the season. While the range was from a low of 35 cents to a high of $2, growers most commonly received less than $1 a bushel on a container-returned basis during the months of August, September, and October. In contrast, growers most commonly received more than $1 for out-of-storage sales made after October 31 with prices ranging from 80 cents to $1.55.

In disposing of sweetpotatoes for processing growers received an average seasonal price of 88 cents for a 45-pound bushel with baskets returned. The range was from a low of 25 cents to a high of $1.05. Net return comparisons could not be made by time periods since very few sales were made after October 31.

When sales were analyzed by delivery point, there was no indication that location of buyer was an important factor affecting returns to growers.

Marketing by Shippers - For Fresh Use

Available literature and statistics bearing on the subject show that the marketing of fresh sweetpotatoes at the shipping point level is rather decentralized in many respects. It involves (1) lack of uniform grades and standards in selecting merchantable stock, (2) a concentration of sales early in the season, (3) shipping a major portion of the produce to terminal market dealers who in turn sell in smaller lots to numerous buyers, and (4) a wide geographic distribution of sales.

Interviews with, and sampling sales records of, 30 sweetpotato shippers provided information on these practices for the 1959 crop and for the 1959-60 shipping season. For an explanation of the sampling procedure, see appendix page 42.

Selection of Merchantable Stock

Control over quality by shippers is basic to satisfying market needs and to establishing successful brands and trademarks. Sales personnel must have absolute confidence in the product they sell. By adhering to rigid standards the sales force can more readily determine the source of damage that may occur later in a shipment of produce. And, rigid inspection at the shipping point level aids in assuring buyers and consumers that repetitive purchases of the same product will result in equal satisfaction. The way in which shippers select merchantable stock is thus another factor to consider in developing an effective sales program.

Eastern Shore of Virginia shippers most commonly buy field-graded, farm-packed sweetpotatoes by the bushel basket. But, because packs vary considerably in quality, shippers usually regrade at the packing shed and cull ou those potatoes not meeting fresh market requirements. A 10 to 20 percent loss in volume from regrading, repacking, and shrinkage of uncured sweetpotatoes is common. This loss often ranges considerably higher depending upon harvesting and field grading practices.

Although 10 percent of the shippers packed at least a part of their volume under standards established by the Accomack-Northampton Sweet Potato Improvement Association in 1959, shippers generally market without Federal-State inspection for grade. Most of the produce for fresh market is sold as the shipper's better grade and some shippers use private labels to identify quality sweetpotatoes. Federal-State inspection is used only when requested by the purchaser. However, some lots of sweetpotatoes are stamped as meeting U. S. No. 1 grade standards to comply with legal requirements of some States.

Sweetpotatoes culled from the better grade may be marketed under other classifications. Normally, three other classifications are used—medium, commercial, and jumbo.

Mediums consist of sweetpotatoes too small to be marketed as the shipper's better grade but of high quality and excellent appearance. Canners provide an important outlet for this size potato although some are sold on the fresh market.

Commercials are quite comparable in size to the shipper's better grade, but are of poor quality and inferior appearance.

Jumbos are sweetpotatoes too large in size to be marketed with any other classification. A limited demand exists for these on the fresh market. Canners, processors, and truckers are the important outlets for these roots.

Timing of Sales

To operate most effectively in a market changing toward large-scale purchasing and mass distribution, more and more shippers are finding it necessary to extend their marketing season. Volume movements at the retail level require a continuous supply of produce, and shippers that can fulfill this need are in the best position to capture preferential sales outlets.

Like growers, shippers of Eastern Shore sweetpotatoes have, over the years, normally sold a major portion of their volume while harvesting was in progress. This was characteristic of nearly all shippers, whether they bought potatoes or shipped only their own product. An analysis of shippers' records showed that this was also a common practice during the 1959-60 marketing season. August, September, and October were the months of heaviest sales with 14, 21, and 18 percent, respectively, of the total volume being sold during this period (table 13, page 20).

By Volume Marketed.—In tabulating the monthly distribution of sales, it appeared that the practice of selling early in the season was more pronounced among some shippers than others. To examine this relationship, the data were summarized as shown in table 14, page 20 and in appendix table 1.

As volume increased from less than 25,000 to more than 50,000 bushels, the proportion of the total volume sold uncured at harvest time, or before November 1, declined from 60 to 50 percent of the total. Conversely, the proportion sold out of storage increased from 40 to 50 percent.

Fresh sales for the month of August averaged 14 percent of the total seasonal volume. If no differences existed in the proportion sold, when classified by volume, 14 percent of each shipper's volume would have been sold during this month. This was not the case. Shippers having a volume of less than 50,000 bushels marketed more than 14 percent of the total, and those with a volume exceeding 50,000 bushels marketed less than 14 percent during the period.

Table 13.—Distribution of fresh market sweetpotatoes by months, 28 shippers, Eastern Shore of Virginia, crop year 1959

Month	Estimated quantity sold	Percentage of total sold	Cumulative percentage of total sold
	1,000 bushels	Percent	
July, 1959	76.0	7.6	7.6
August	140.7	14.0	21.6
September	211.7	21.1	42.7
October	178.9	17.8	60.5
November	103.3	10.3	70.8
December	106.1	10.6	81.4
January, 1960	87.6	8.7	90.1
February	66.7	6.6	96.7
March	26.5	2.6	99.3
April	7.3	.7	100.0
Total	1,004.8 1/	100.0	

1/ Month of sale unspecified for 1,400 bushels.

Table 14.—Percentage distribution of fresh market sweetpotatoes classified by volume marketed and timing of sales, 28 shippers, Eastern Shore of Virginia, crop year 1959

Shipper volume	Number of shippers	Estimated total fresh volume	Percentage of sales made in			
			August	September	October	Total
Bushels	Number	1,000 bushels	Percent			
Less than 25,000	10	85.3	18.6	29.8	11.9	60.3
25,000 - 50,000	11	357.1 1/	15.5	21.1	18.8	55.4
More than 50,000	7	562.4	12.4	19.7	18.0	50.1
Total or average	28	1,004.8	14.0	21.1	17.8	52.9

1/ Month of sale unspecified for 1,400 bushels.

Comparable analysis in the following pages of the report must be examined in the same manner.

Terms of Sale

The terms under which sweetpotatoes are sold vary widely, but only two important general classifications bear heavily upon a shipper's selling costs and risks in transit. These two classifications are f.o.b. and delivered sales. For purposes of this study, f.o.b. sales include those in which the buyer pays transportation costs. Delivered sales include those in which the shipper pays costs of delivery.

During the past 10 years, Eastern Shore of Virginia shippers have sold more fresh sweetpotatoes on a delivered basis than in any other manner. According to the 1952 study, 76 percent of the total volume of better grade potatoes were priced in this manner (5).

Table 15 shows distribution of shippers' fresh market sweetpotato shipments by terms of sale in the 1959-60 marketing season. Eighty-one percent of all sales were on a delivered basis. Further, as shippers' volume increased from less than 25,000 to more than 50,000 bushels, delivered sales, as a proportion of all sales, declined from 92 to 74 percent. Conversely, the percentage sold on an f.o.b. basis increased from 8 to 26 percent.

Lack of uniform grades and standards may be one reason that such a large part of the Eastern Shore crop has been sold on a delivered basis. In general, a high degree of standardization is necessary if a distant buyer is to receive a fairly adequate description of the product. If the product cannot be described in meaningful terms, a buyer may refrain from purchasing until he has an opportunity to inspect the commodity.

The terms under which sweetpotatoes are sold also vary with the supply and demand situation. In a short crop year the shipper has greater latitude in determining the terms of sale, whereas in a surplus crop year, the buyer has greater freedom in making these decisions. From the shipper's viewpoint, selling f.o.b., final acceptance, is no doubt preferred. Conversely, many buyers prefer to purchase on a delivered basis with the privilege of inspection and acceptance on arrival, rather than to assume transportation costs and risks in transit.

Market Channels

A substantial growth in the share of vegetables bought by mass-scale distributors is another factor to consider in developing a marketing program for the distribution of future crops. Conceivably, if large-scale purchasing by chain stores continues to become more important, the volume of fresh sweetpotatoes sold through intermediary handlers may be so small that prices will not adequately reflect supply and demand conditions. Shippers relying upon intermediary terminal market dealers as their sole outlet may thus be selling at a price disadvantage.

Table 15.—Percentage distribution of fresh market sweetpotatoes classified by volume marketed and terms of sale, 28 shippers, Eastern Shore of Virginia, crop year 1959

Shipper volume	Estimated total volume	Percentage of volume sold		Total
		Delivered	F. o. b.	
Bushels	1,000 bushels	Percent		Percent
Less than 25,000	1/ 77.0	91.5	8.5	100
25,000 - 50,000	358.5	86.2	13.8	100
More than 50,000	2/ 374.8	74.1	25.9	100
Total or average	810.3	81.1	18.9	100

1/ Terms of sale unspecified for 8,300 bushels.
2/ Terms of sale unspecified for 187,600 bushels.

The percentage distribution of shippers' fresh sweetpotato sales, by market channels, for the period studied is shown in table 16.

Two relationships are apparent. First, a major portion of the crop moved through intermediary handlers. Second, as shippers' volume increased from less than 25,000 to more than 50,000 bushels, direct sales to chain stores, as a proportion of all sales, increased from 26 to 33 percent. Conversely, the proportion sold through terminal market dealers and other intermediary handlers declined from 74 to 67 percent.

In general, the chains require a high degree of product standardization. They must have reasonably assured supplies and qualities upon which to build advertising and merchandising campaigns. They are likely to seek out a number of shippers with whom they can reach an agreement on quality and volume. The analysis implies that large-volume shippers were most successful in fulfilling these needs.

Commission merchants were important intermediary handlers. These dealers (1) sold to jobbers, wholesalers, or receivers, (2) sold to peddlers and others, or (3) sold to retailers. Upon completion of the sale, the commission merchant rendered an "account sales" to the shipper which generally showed the quantity sold, amount received, freight paid, and charges for services. Total charges including commission usually ranged from 8 to 20 percent of the gross selling price.

Destination of Sales

In view of increasing competition from other segments of the industry in the production, shipment, and distribution of sweetpotatoes, Accomack and Northampton shippers should also analyze their sales pattern with respect to the number of markets being served and the type and extent of competition prevailing within the various markets.

Over the years Eastern Shore fresh sweetpotatoes have been shipped into a relatively large number of markets. Further these quantities were shipped in direct competition with other important production areas.

In the 1959-60 marketing season, fresh sweetpotatoes were distributed to 95 cities in 19 States including the District of Columbia, and to Ontario, Canada. Sixty-five percent of the shipments were to markets located in the Northeastern Region of the United States. Table 17 lists the markets receiving 1 percent or more of the volume.

Table 16.—Percentage distribution of fresh sweetpotato sales classified by volume marketed and type of handler, 28 shippers, Eastern Shore of Virginia, crop year 1959

Shipper volume	Estimated total volume	Percentage of sales: Direct to chain stores	Percentage of sales: Through intermediary handlers	Total
Bushels	1,000 bushels	Percent	Percent	Percent
Less than 25,000	85.3	25.9	74.1	100
25,000 - 50,000	[1] 333.5	29.0	71.0	100
More than 50,000	562.4	33.0	67.0	100
Total or average	981.2	30.4	69.6	100

[1] Trade channel unspecified for 25,000 bushels.

Table 17.--Market areas ranked according to estimated number of bushels of fresh sweetpotatoes received from 28 Eastern Shore of Virginia shippers, crop year 1959

Market area	Volume shipped	Percentage of total volume	Cumulative percentage of total volume
	1,000 bushels	Percent	
New York, N.Y. 1/	327.3	32.6	32.6
Philadelphia, Pa. 2/	120.8	12.0	44.6
Baltimore, Md.	115.8	11.5	56.1
Boston, Mass.	47.4	4.7	60.8
Atlanta, Ga.	45.9	4.6	65.4
Richmond, Va.	29.8	3.0	68.4
Washington, D.C. 3/	28.1	2.8	71.2
Toronto, Canada	24.0	2.4	73.6
Salisbury, Md.	4/ 14.6	1.5	75.1
Albany, N.Y.	13.9	1.4	76.5
Buffalo, N.Y.	13.6	1.4	77.9
Detroit, Mich.	12.7	1.3	79.2
Pittsburg, Pa.	10.4	1.0	80.2
Scranton, Pa.	10.4	1.0	81.2
81 other	189.7	18.8	100.0
Total	5/ 1,004.4	100.0	

1/ Includes Elmsford, Harlem River, Maspeth, and Mt. Kisco, N.Y.; Carlstadt, Elizabeth, Hammondton, Hawthorne, Kearny, Linden, and Paterson, N.J. 2/ Includes Yeadon, Pa. 3/ Includes Landover, Md. 4/ Includes quantities to be redistributed to other market areas. 5/ Destination of sales unspecified for 1,800 bushels.

Shipments to New York City amounted to 33 percent of the total. Philadelphia and Baltimore followed as important receiving markets.

In terms of carlot equivalents, truck unload data—in which shipments may be underestimated—show that New Jersey and North Carolina are Virginia's major competitors in the New York market (appendix table 2). Of all shipments received in this market during the past 3 calendar years, New Jersey supplied an average of 37 percent, North Carolina 31 percent, and Virginia 22 percent.

An examination of truck unload data showed that New Jersey outsold Virginia more than two to one in the Philadelphia market. Of the total shipments received in this market during the 3 preceding calendar years, New Jersey provided an average of 54 percent and Virginia 22 percent.

Maryland is the sales leader and Virginia's major competitor in the Baltimore market. Maryland sales accounted for an average of 35 percent and Virginia sales 30 percent over the 3-year period.

Returns at the Shipping Point Level

A number of factors including (1) volume and quality of sweetpotatoes shipped, (2) month of sale, (3) terms of sale, (4) market channels

In this packing shed, fresh market sweetpotatoes are washed, graded, waxed, and packed in a continuous operation. This is one phase of the operation.

employed, and (5) destination of sales are considered to be associated with prices received at the shipping point level.

To reduce all prices to a shipping point or f.o.b. basis, transportation, selling, and other marketing costs were deducted from prices received for delivered sales. As no deductions were made for storage, cost of containers, packing, or previous operations, prices received must be interpreted with care. Returns at the shipping point level represent only the price received per bushel of sweetpotatoes at the packinghouse door.

Due to the absence of uniform grades and standards, an average price per bushel of sweetpotatoes was not computed. Further, an average price for all lots which included different grades or quality ranges, sizes, and varieties would be of little value in making marketing decisions. For these reasons, data are presented in terms of the proportion sold at different price intervals for each variable under consideration.

Since differences in quality should be less within any given price range than between any two price intervals, inferences can be made concerning the relationship between price and any other factor. But, it cannot be said that one factor affected price more than any other since only gross relationships are presented here and no inter-relationships are considered.

To determine the true effect of any one factor would require more information than was available from the survey.

For the Season.—Returns at the shipping point level for fresh-market sweetpotatoes ranged from minus 31 cents to more than $3.75 a bushel during the 1959-60 marketing season. Negative returns resulted when transportation costs and terminal market charges exceeded the gross selling price. For purposes of analysis, prices were classified as shown in table 18.

Of the total volume marketed, the largest proportion, 24 percent, returned from $1.51 to $1.75 at the packinghouse door. An additional 16 percent returned from $1.76 to $2. The smallest percentage returned from $2.26 to $2.50.

In total, shippers of Eastern Shore fresh sweetpotatoes received $1.75 or less for 61 percent of all sales and more than $1.75 for 39 percent.

By Timing of Sales.—One comment frequently expressed by shippers during the course of this study was that stored sweetpotatoes sold at or below price levels prevailing at harvest time, or before November 1. To examine the nature of this relationship, data in table 18 were summarized as shown in table 19, page 26.

According to the data, an extension of the marketing season was associated with an increase in price. As the season was extended, the proportion of total volume returning $1.75 or less declined from 73 to 53 percent. At the same time, the percentage returning more than $1.75 increased from 27 to 47 percent.

Table 18.--Percentage distribution of fresh-market sweetpotatoes classified by month of sale and dollars received per bushel at the shipping point level, 28 shippers, Eastern Shore of Virginia, crop year 1959

Month [2]	Estimated volume sold	Percentage of monthly volume sold at: [1]									Total
		$ .75 or less	$ .76 to $1.00	$1.01 to $1.25	$1.26 to $1.50	$1.51 to $1.75	$1.76 to $2.00	$2.01 to $2.25	$2.26 to $2.50	More than $2.50	
	1,000 bu.	Percent									Percent
July, 1959	0.5	-	-	-	-	-	-	-	-	100.0	100
August	75.3	11.2	7.6	3.8	17.7	20.8	3.6	10.2	5.7	19.4	100
September	144.7	9.4	13.1	6.5	19.9	27.9	13.6	3.0	5.0	1.6	100
October	124.6	8.9	10.0	9.2	10.3	37.9	12.7	5.5	3.1	2.4	100
November	85.1	3.2	5.8	8.1	5.8	20.2	23.2	18.5	2.4	12.8	100
December	85.1	5.7	6.7	5.7	7.4	21.6	11.6	27.3	6.8	7.2	100
January, 1960	64.6	6.2	6.7	9.4	9.2	16.6	19.2	18.1	3.0	11.6	100
February	48.8	10.9	12.3	5.3	22.5	14.7	23.2	6.7	3.9	.5	100
March	20.9	9.8	13.0	4.5	4.1	10.8	35.3	13.2	9.3	-	100
April	7.3	8.1	16.0	3.5	16.1	15.0	24.3	-	17.0	-	100
Total or average	656.9	7.9	9.3	6.9	12.7	24.4	15.5	11.7	4.6	7.0	100

[1] Price unspecified for 347,900 bushels.
[2] Month of sale unspecified for 1,400 bushels.

Table 19.—Percentage distribution of fresh-market sweetpotatoes classified by timing of sales and price received per bushel, 28 shippers, Eastern Shore of Virginia, crop year 1959

Timing of sales [1]	Estimated total volume	Percentage of volume returning		Total
		$1.75 or less	More than $1.75	
	1,000 bushels	Percent		Percent
At harvest time	[2] 345.1	73.1	26.9	100
From storage	[3] 311.8	52.5	47.5	100
Total or average	656.9	63.3	36.7	100

[1] Month of sale unspecified for 1,400 bushels.
[2] Price unspecified for 262,300 bushels.
[3] Price unspecified for 85,600 bushels.

This is not to say that all shippers gained from the storage operation. For example, 51 percent of the volume sold in February returned $1.50 or less compared to 49 percent in September. Or, in the highest price range, all July sales for which prices were specified, returned more than $2.50 on an f.o.b. basis. No sales were reported at these prices for March and April.

By Shipper Volume.—The assumption that a shipper's volume has a bearing upon price seems logical. For example, it seems reasonable to expect that small-volume shippers selling a bulk of their crop while harvesting is in progress and emphasizing sales through intermediary terminal market handlers would receive comparatively lower prices than others. Large-volume shippers, on the other hand, should end the season with relatively higher returns since they are best able to take advantage of more extensive inter-market and inter-seasonal price variations.

Table 20, page 27, shows the relationship between shipper volume and price received during the 1959-60 marketing season.

On the average, an increase in volume was associated with an increase in price. As shipper volume increased from less then 25,000 to more than 50,000 bushels the proportion sold at $1.75 or less declined from approximately 75 to 62 percent of the total. Conversely, the percentage sold at the higher price range increased from about 25 to 38 percent. Data for individual price intervals are shown in appendix table 3.

By Terms of Sale.—Since a shipper assumes transportation costs and risks in transit for sweetpotatoes sold on a delivered basis, it would seem that these sales should bring a higher average price than those sold f.o.b. Table 21 shows this relation ship for the 1959-60 marketing season.

The largest percentage of all sales returning $1.75 or less at the packinghouse door were sold f.o.b. In contrast, the greatest percentage returning more than $1.75 were delivered sales. Or, considering individual price intervals, f.o.b. sales most commonly returned from 76 cents to $1, while delivered sales most frequently netted from $1.51 to $1.75 (appendix table 4).

By Market Channels.—There is reason to believe that sales through some market channels should bring higher returns than others.

For example, it would seem that a chain store, with its specification buying and system of mass distribution, could offer a premium over an intermediary handler selling varying size lots and qualities to several small retailers.

The relationship between returns at the shipping point level and market channels for fresh market sweetpotatoes during the 1959-60 shipping season is shown in table 22, page 28, and in appendix table 5.

On the average, the largest proportion of all sales returning $1.75 or less at the shipping point level moved through intermediary handlers. In contrast, the largest percentage of all sales returning more than $1.75 were purchased by chains.

Upon the basis of this information shippers received the greatest returns from chain store sales. However, this difference may be accounted for in part by including higher quality

Table 20.--Percentage distribution of fresh-market sweetpotatoes classified by shipper volume and price received per bushel, 28 shippers, Eastern Shore of Virginia, crop year 1959

Shipper volume	Estimated total volume	Percentage of volume returning		Total
		$1.75 or less	More than $1.75	
Bushels	1,000 bushels	Percent		Percent
Less than 25,000	[1] 73.6	74.9	25.1	100
25,000 - 50,000	[2] 279.1	62.0	38.0	100
More than 50,000	[3] 305.5	61.5	38.5	100
Total or average	658.2	63.2	36.8	100

[1] Price unspecified for 11,700 bushels.
[2] Price unspecified for 79,400 bushels.
[3] Price unspecified for 256,900 bushels.

Table 21.—Percentage distribution of fresh-market sweetpotatoes classified by terms of sale and price received per bushel, 28 shippers, Eastern Shore of Virginia, crop year 1959

Terms of sale [1]	Estimated total volume	Percentage of volume returning		Total
		$1.75 or less	More than $1.75	
	1,000 bushels	Percent		Percent
F.o.b.	[2] 147.8	73.4	26.6	100
Delivered	[3] 510.5	60.2	39.8	100
Total or average	658.3	63.2	36.8	100

[1] Terms of sale and price unspecified for 195,900 bushels.
[2] Price unspecified for 5,000 bushels.
[3] Price unspecified for 147,000 bushels.

produce and performing additional services as the chains purchased relatively larger quantities of waxed and consumer-packaged sweetpotatoes. Allowing for these factors, it may well be that returns to shippers from all trade channels were quite comparable.

By Destination of Sales.—Throughout the 1959-60 season, shippers sold 61 percent of the fresh sweetpotato volume in five principal markets. Returns associated with these markets thus materially affected the financial position of the industry.

As shown in table 23 and in appendix table 6, the greatest percentage of all sales returning $1.75 or less at the packinghouse door were shipped to Boston, Mass., and Atlanta, Ga. And, of all sales returning more than $1.75, the greatest proportion were shipped to New York, N. Y., Philadelphia, Pa., and Baltimore, Md.

On the basis of factors discussed in this section, it seems reasonable to conclude that shippers who received the lowest average price per bushel during the marketing year 1959-60 had one or more of the following characteristics: They had a small volume, concentrated sales

These sweetpotatoes, destined for the fresh market, were packed under special standards of the Accomack-Northampton Sweet Potato Improvement Association.

Table 22.--Percentage distribution of fresh-market sweetpotatoes classified by market channel and price received per bushel, 28 shippers, Eastern Shore of Virginia, crop year 1959

Market channel[1]	Estimated total volume	Percentage of volume returning		Total
		$1.75 or less	More than $1.75	
	1,000 bushels	Percent		Percent
Chain stores	[2]161.8	54.0	46.0	100
Independent handlers	[3]471.5	64.4	35.6	100
Total or average	633.3	61.7	38.3	100

[1] Market channel unspecified for 25,000 bushels.
[2] Price unspecified for 142,700 bushels.
[3] Price unspecified for 205,200 bushels.

Table 23. --Percentage distribution of fresh-market sweetpotatoes classified by destination of sales and price received per bushel, 28 shippers, Eastern Shore of Virginia, crop year 1959

Receiving market	Estimated total volume	Percentage of volume returning		Total
		$1.75 or less	More than $1.75	
	1,000 bushels	Percent		Percent
New York City, N. Y.	1/178.4	58.2	41.8	100
Philadelphia, Pa.	2/59.7	56.5	43.5	100
Baltimore, Md.	3/69.3	54.9	45.1	100
Boston, Mass.	4/11.1	67.2	32.8	100
Atlanta, Ga.	45.9	98.6	1.4	100
	364.4	62.6	37.4	100

1/Price unspecified for 148,900 bushels.
2/Price unspecified for 61,100 bushels.
3/Price unspecified for 46,500 bushels.
4/Price unspecified for 36,300 bushels.

early in the season, emphasized sales on an f.o.b. basis, relied on terminal market dealers, and sold a large fresh volume in Boston and Atlanta. In contrast, shippers who received the highest average price per bushel, had a large volume and a uniform distribution of sales, sold on a delivered basis, emphasized direct sales to chain stores, and sold a large volume in New York City, Philadelphia, and Baltimore.

Marketing by Shippers - For Processing

Shippers supplied information relating to marketing methods and practices for sweetpotatoes not meeting fresh-market requirements. Due to the structure of the industry, however, the following discussion does not take into consideration the final form in which the product was marketed. Sales to canners and to other processors are concentrated among a few firms and to discuss marketing practices in detail would enable one firm to determine the relative position of its competitors.

Selection of Merchantable Stock

Sweetpotatoes for processing represent those potatoes which could normally enter fresh-market channels except that the lower size limits for processing have a wider range in diameter. The upper size limit for processing is greater than for fresh market, and the inclusion of jumbos is preferable.

Shippers specializing in marketing sweetpotatoes for processing obtain the bulk of their purchases from growers on a field-grade basis. The largest percentage of these potatoes are marketed under an agreement between the grower and shipper specifying that the grower agrees to deliver a stated portion of his volume to the agency. Sweetpotatoes not meeting processing requirements are usually graded out and either sold to the best advantage of the grower or returned to him for his disposition.

Timing of Sales

On-Shore shippers marketed an estimated 290,000 bushels of sweetpotatoes not meeting fresh-market requirements during the 1959-60 season (table 24). Of this quantity, 80 percent were sold at harvest time, or before November 1, and 20 percent were held for

Table 24.--Monthly percentage distribution of sweetpotatoes for processing, two shippers, Eastern Shore of Virginia, crop year 1959

Month	Estimated quantity sold	Percentage of total sold	Cumulative percentage of total sold
	1,000 bushels	Percent	Percent
August, 1959	81.0	27.9	27.9
September	72.0	24.9	52.8
October	77.4	26.7	79.5
November	39.8	13.7	93.2
December	19.8	6.8	100.0
Total	[1] 290.0	100.0	

[1] Does not include sweetpotatoes purchased by shippers as fresh market stock but sold later for processing.

later disposition. No sales were reported after December 31.

Sales of cannery-size roots were most pronounced during the months of August, September, and October. August was the most important single month, accounting for a major portion of all sales. Sales to processors other than canners were emphasized during November and December.

Market Channels

Sales to canneries on the Eastern Shore of Virginia and Maryland constituted the most important outlet for small-size potatoes.

Processors located off the Shore purchased a major portion of the jumbos. These were used mainly for manufacturing into baby food, or sold for dicing and solid packs.

Returns at the Shipping Point Level

Seasonal patterns in price differences were also present in the sale of sweetpotatoes for processing (table 25). Sales at harvest time, or before November 1, generally returned less than $1 at the shipping point level. November and December sales, on the other hand, returned more than $1.

Though these averages serve as a rough measure of price levels, it must again be emphasized that they are not comparable in every respect. Some prices, for example, reflect the sale of cannery-size sweetpotatoes, practically all of which are sold at harvest time. Roots sold to other processors are cured and sold from storage.

Supplemental Considerations

During the survey, several persons interviewed inquired about the merits of using marketing contracts, the pros and cons of market orders and agreements, and the feasibility of marketing a larger part of the total crop cooperatively.

The following discussion is intended to answer questions raised by those interviewed. Specific suggestions on the role of contracts, orders, agreements, and cooperative marketing in a future sales program for Eastern Shore of

Table 25. -- Percentage distribution of sweetpotatoes for processing, classified by price received per bushel at the shipping point level, two shippers, Eastern Shore of Virginia, crop year 1959

Month	Estimated total volume	Percentage of volume returning		Total
		$0.75 - $1	$1.01 - $1.25	
	1,000 bushels	Percent		Percent
August, 1959	81.0	100.0	-	100
September	72.0	100.0	-	100
October	77.4	97.8	2.2	100
November	39.8	11.7	88.3	100
December	19.8	-	100.0	100
Total or average	[1] 290.0	80.5	19.5	100

[1] Does not include sweetpotatoes purchased by shippers as fresh stock but sold later for processing.

Virginia sweetpotatoes appear in a later section of this report.

Marketing Contracts

A marketing organization exists because of its ability to serve. It must adequately serve the needs of both growers and buyers. A marketing contract provides some assurance of the volume upon which this service can be offered.

A marketing contract is an agreement between a sales organization and a grower stipulating the rights and responsibilities of each party to the contract. The grower agrees to deliver all or a specified part of his crop to the agency, to allow for handling costs, and to pay liquidating damages if he breaks the contract. In return the sales organization agrees to sell the grower's crop to the best advantage under prevailing circumstances and to make payment in a specified manner.

The main purposes of a contract are:

1. It provides a basis for obtaining sufficient volume for economical operation.

2. It provides an objective planning tool for making commitments for sales, labor, facilities, financing, supplies, and other resources.

3. It provides a legal basis for restraining outside interference with growers and for bringing action against a grower for nonperformance.

4. It provides an objective basis for an understanding between the grower and the marketing organization, and thus prevents misrepresentation.

While a contract can aid both parties to the agreement, it does not assure the agency of continued grower business. Alternative crops may, for example, become more attractive—in which case a grower is apt to withdraw his business.

Market Orders and Agreements

Market orders and agreements are self-help programs initiated by either producers, handlers, or both to affect the marketing of a

Several market outlets are used by Eastern Shore of Virginia sweet-potato shippers, including a typical farmers' market.

particular crop or commodity. The processes involved in initiating them are quite similar. Both require a public hearing and both must be voted upon favorably by industry members. Once in effect, market orders become binding upon all producers, handlers, or both, of the crop or commodity for which the order was put into effect. Marketing agreements, on the other hand, are binding only upon those individuals who sign them.

These programs permit an industry to undertake on an areawide basis certain actions affecting the marketing of a commodity. Such actions differ depending upon the program under consideration and whether it is based on Federal or State legislation.

Provisions relating to quality control (grade, size, and maturity standards) are widely used in both Federal and State programs. Basically this regulation is designed to prohibit shipments of particular grades and sizes during a specified period of time. For example, quality provisions have been used to prevent shipments of immature produce to take advantage of high early-season prices. They have also been used to prevent the marketing of produce below a given grade or size.

Advertising and sales promotion cannot presently be carried on under Federal marketing orders. State marketing orders can be used for promotional purposes. They insure that each member of the industry will contribute in proportion to the volume he markets.

Container and pack regulations have been issued under several Federal and State marketing order and agreement programs. Undesirable practices relating to numerous sizes and types of containers have been controlled by these programs.

An important consideration is that market order and agreement programs provide one means by which industry members may discuss common problems and proceed to put their conclusions into effect on an areawide basis.

For a more complete discussion of orders and agreements, see references (2) and (8).

Cooperative Marketing

A marketing cooperative is a voluntary organization of producers having a mutual interest. If is formed and operated along democratic lines to obtain services at cost for members and other patrons who contribute both capital and business.

Expressed or implied in this definition are some underlying principles that distinguish cooperatives from other forms of business organizations; namely, democratic control by members, services at cost, and limited returns on invested capital.

Democratic control is usually achieved on the basis of "one member, one vote" or occasionally by voting on the basis of patronage furnished. The primary objective of the members when investing capital in the cooperative is to provide facilities for rendering services at cost rather than to obtain returns on the investment. Any surplus income over the cost of doing business is returned to the member in the form of a patronage dividend in proportion to the volume marketed through the cooperative—not in proportion to his investment.

A marketing cooperative's chief source of strength lies in its producer-members' support and patronage. Like other firms in our free enterprise system, the cooperative must adhere to sound operating practices and policies. These include the limited use of credit; building adequate reserves; employing capable, honest managerial and other personnel; having regular audits by competent accountants; obtaining necessary legal advice; and exercising care in selecting a board of directors which will truly represent membership in formulating overall policy (7).

For a discussion of the legal requirements that these associations must fulfill, see reference (9).

Indicated Changes

It is evident from this study that many factors could have given rise to growers' and shippers' dissatisfaction over the results of previous years' operations. However, there are some factors over which the Eastern Shore of Virginia sweetpotato industry has little or no control. These include increasing competition from other areas, declining per capita consumption for the fresh product, and a market structure changing toward specialization. Because this form of competition is likely to continue, it becomes most important that growers and shippers in Accomack and Northampton Counties adjust their marketing program to minimize the impact of these forces.

Following are some factors and suggestions that growers and shippers should consider.

Quality Control

Other competing areas have captured a market for their product by setting up and adhering to rigid standards. This policy has enabled them to deliver a high-quality product easily recognized by consumers as superior to that grown in other areas. If growers and shippers on the Eastern Shore are to successfully compete with these uniform, carefully graded varieties, and if they are to serve market requirements, it is necessary that their product be properly graded.

To attain quality control, (1) more sweetpotatoes should be graded according to U. S. Standards or some modification of these, such as those adopted by the Accomack-Northampton Sweet Potato Improvement Association, (2) shippers should purchase more sweetpotatoes from growers on a grade and size basis than has been practiced in the past, and (3) if action is taken to implement uniform standards, it should essentially be on an areawide basis.

Sweetpotatoes not meeting grade and size requirements for the fresh market comprise one source of supply for the processing trade. Oversize potatoes, for example, are generally preferred by processors that both peel and cut. Small-size stock is usually preferred by canners that peel only and market the whole potato.

Another source of processing roots consists of those not meeting U. S. No. 1 requirements for shipment into fresh-market channels. This portion of the crop represents the normal shrinkage in packing the better grade for fresh market. During the 1959-60 season, these roots were either sold in bulk to truckers or packed and shipped to nearby terminal markets. These practices increased the supply on already overburdened markets resulting in lower average prices for all quantities and a decrease in f.o.b. and delivered sales by local shippers.

"Instant" sweetpotatoes in flake or granular form are in the experimental stage of development. If they meet with consumer acceptance, they will offer an alternative outlet for approximately 15 percent of the Eastern Shore crop. Growers and shippers in Accomack and Northhampton Counties should explore the possibilities of developing this type of processing facility on the Shore. Varieties adaptable to flaking, plant location, capital requirements, estimated costs and returns, technical knowledge, and type of sales program are important factors to be evaluated.

Support of On-Shore Shippers

The information on hand implies that most shippers in Accomack and Northampton Counties have demonstrated their ability to sell sweetpotatoes to the advantage of growers. But opportunities do exist for obtaining additional grower support, particularly in marketing cannery sweetpotatoes. To do so, producers not using the available services must be convinced that prevailing agencies will benefit them more than the market outlets they are now using.

Above all, shippers can best promote good relations by continuing to exercise high integrity in accounting for sales handled by them, keeping producers accurately informed about market conditions, and reporting full information about their needs and requirements to growers.

Growers should fully realize that marketing functions performed by local shippers must be carried on by someone; and unless other middlemen, or the producer himself, can discharge these functions more economically, savings will not accrue to the grower.

Number of Shippers

Competition is likely to prevail in any marketing area; in fact, it is often conceded that competition is desirable. But excessive or unorganized competition often results in fragmentation of sales strength. In view of this, the industry should carefully evaluate the type and extent of competition prevailing among growers in the disposition of their small cannery-size sweetpotatoes and among shippers in competing for fresh sales.

The selling of Eastern Shore cannery-size sweetpotatoes is unorganized at the grower level, being characterized by numerous sellers, many of whom are in the market intermittently with small supplies. Experience has shown that when such conditions prevail markets are likely to become disorganized and prices fluctuate widely. Time, volume, and merchandising skill are required if these sweetpotatoes are to be sold to the advantage of both growers and canners. For these reasons it may be well worthwhile to consider the merits of marketing a larger proportion of the small-size sweetpotatoes cooperatively.

Two observations support this proposal. First, growers received an average of 94 cents a bushel for potatoes sold through the Northampton Marketing Cooperative in 1959 compared to 85 cents for those sold direct to canners or to truckers for delivery to canners. Second, canners have stated that they need an assured supply of sweetpotatoes meeting certain minimum quality standards if they are to operate most efficiently. Strong efforts to market a substantial volume cooperatively should therefore result in more satisfaction to all concerned.

Consideration should also be given to the large number of fresh-sweetpotato shippers handling a small part of the total crop. It would appear that many of these firms have an insufficient volume of business. This handicap may be minimized in some instances by handling a greater number of vegetables. In other instances shifting to the marketing of some other commodity may prove the only solution. While a large number of shippers provide convenience for growers, the number that can operate economically is limited.

Large-volume shippers occupy a strategic position. The study indicated that they receive higher prices and are in the best position to return higher prices to growers. They can also best fulfill volume and quality requirements of most buyers. Increasing concentration of volume through these sales organizations should be one way to improve the competitive status of the industry.

Timing of Sales

Marketing such a large part of the fresh sweetpotato crop at harvest time is frequently a major cause of unstable prices; and when markets are over or under supplied, subjects the seller to the risk of sudden losses of established outlets. There is, on the other hand, always an element of risk in storing because cured-sweetpotato prices do not always exceed the prices prevailing at harvest time by an amount necessary to cover costs of storage.

The possibility of obtaining greater returns from storage depends upon the existence of price changes within the season which tend to be repeated year after year. In other words, a decision whether to store should not be based upon price changes that occur in any one year but upon experiences over several years.

A previous study indicates the possibility of more nearly uniform and higher average prices when supplies are more evenly distributed throughout the shipping season. For the period 1945-52, the price of Virginia sweetpotatoes averaged 52 to 59 percent more from March through June than in the preceding October (10). Where shrinkage was normal, it paid to store during the entire 8-year period.

The relationship between shipper volume and prices of sweetpotatoes in 1959 also pointed toward advantages of distributing sales over the entire marketing season.

All segments of the Eastern Shore of Virginia sweetpotato industry should consider the feasibility of utilizing storage more intensively. Even though storage operations may not be profitable every year, the practice does insure participants that their average seasonal price will exceed the lowest price paid during the marketing season. It also helps to minimize the possibilities of incurring a heavy loss in any one year.

Growers and shippers with limited capital but desiring to engage in storage operations should consider the merits of centralized storage. The purpose of this facility would be twofold: First, to supplement other farm storage so that growers as a group could engage in an orderly marketing program; and second, to provide a reserve of produce for shippers to draw upon in developing an orderly marketing program.

Before constructing centralized storage facilities for sweetpotatoes the industry should investigate existing facilities to see if they can be bought or leased economically. If none are available, consideration must be given to constructing such facilities.

Greater care must be exercised in selecting storable stock. Losses due to shrinkage and rot for stored sweetpotatoes ranged from 0 to 100 percent and averaged 23 percent. More than half the storages had losses exceeding 20 percent and averaging 37 percent with the remaining storages having losses averaging 17 percent. These are rather high and somewhat above the Nation's average loss for stored sweetpotatoes. Selection of storable stock on a grade and size basis should materially reduce these losses.

Market Channels

In keeping with the trend for many other vegetables, the marketing channels for Eastern Shore of Virginia sweetpotatoes are becoming shorter. This means that growers and shippers are developing more direct connections with large-scale buyers and are relying less upon intermediary agents, such as truckers and commission men, for selling a smaller proportion of the total volume. It also means that fewer independent selling decisions are being made than formerly, and fewer handlers are used to marketing the total crop.

The data implies that the industry has benefited in at least two ways. First, prices received for fresh produce sold to chains appeared higher, on the average, than those sold through intermediary handlers. Second, growers participating in the cooperative marketing of sweetpotatoes for canning received a higher average price than those selling to truckers.

There is also the probability that the cooperative benefited non-patrons, pricewise, and helped to stabilize prices by discouraging growers from offering sweetpotatoes at unwarranted low prices.

In view of current competition and the trend toward large-scale, direct buying, Eastern Shore sweetpotato shippers should have as their ultimate objective the direct selling of fresh produce but continue to utilize other trade channels which have proven reliable and profitable over the years.

It is particularly important that there be a complete understanding among growers, shippers, and buyers on such matters as size, grade, quantity, and quality of product and other terms of the sale. The industry should at all times know what it has to sell and orders should be filled as specified.

Markets Served

Shippers' fresh sweetpotato sales were distributed almost entirely to buyers in five States—

New York, Pennsylvania, Maryland, Massachusetts, and Georgia. The remaining quantity was shipped to 14 States, including the District of Columbia and Ontario, Canada.

This retail display of Eastern Shore of Virginia Nemagolds was designed to encourage consumer acceptance and repeat orders.

Or, from the standpoint of market city location, fresh sweetpotatoes were shipped into nearly 100 trading areas with 81 of these accounting for less than 19 percent of the total volume.

It is evident from the wide pattern of distribution and the large number of markets taking only small quantities of sweetpotatoes that much of the sales effort of shippers was more or less ineffective. It would seem that greater concentration on fewer but larger buyers in a selected number of markets might enable the industry to keep the trade supplied with larger quantities more regularly. Wholesale and retail distributors require a continuous stock displayed in ample volume if they are to merchandise most effectively.

Previous difficulties in finding markets for cannery-size sweets appeared to be due in large part to (1) production in excess of processing requirements, (2) production failing to meet processing requirements, (3) lack of organized effort, or (4) any combination of these. Any one of these conditions would result in low average returns to growers and shippers and loss of markets. Implied by these circumstances is the necessity of adopting meaningful grade standards, providing varieties suitable for processing, and realizing what it takes to satisfy dealers responsible for stocking retail shelves.

Supplemental Considerations

Growers and shippers on the Eastern Shore should also consider the use of marketing contracts, market orders and agreements, and the cooperative marketing of fresh sweetpotatoes as techniques for improving their competitive position.

Marketing Contracts

A good start toward obtaining a large, stable volume of produce is a marketing contract. The contract would specify that the producer agrees to deliver, at the discretion of the shipper, a stated portion of the volume or acreage he has contracted to market through the shipper in each of the previously agreed-upon time periods. It would also specify the portion of the growers' crop covered by the contract and should normally include the entire crop. In other words, the contract would coordinate production practices of growers with marketing requirements of shippers.

Market Orders and Agreements

The Eastern Shore sweetpotato industry should consider orders and agreements as one way of implementing certain changes in its present marketing program.

For example, the study suggested—but did not show conclusively—that grading and varieties were not tailored to meet specifications of fresh and processing outlets. As these outlets have different product requirements, uniform adoption of specifications for each market should result in overall improvement in quality and price.

Further, only 10 percent of all shippers packed any part of their volume under standards established by the Accomack-Northampton Sweet Potato Improvement Association. Supplementing these activities with a State order should be considered as an additional technique for increasing sales.

Another principal provision of Federal and State legislation is volume control. Under certain conditions, limiting the total volume shipped to market during the season may increase farm price, at least in the short run. But, to be truly effective, this regulation should cover a high percentage of the crop being harvested and marketed in competing producing areas (8).

To effect desired changes in the present marketing program on an areawide basis, growers and shippers could (1) take advantage of existing Federal legislation, (2) adopt State enabling legislation that would permit setting up State marketing orders and agreements, or (3) select a combination of these alternatives.

It must be recognized that orders and agreements are only self-help tools. They do not insure success. Rather, as with other tools, their effectiveness depends upon the problem to which they are applied, the quality of leadership, and a willingness to support the programs financially.

Cooperative Marketing

The industry has observed the change toward large-volume purchasing and mass distribution at the processing and retail procurement levels. In response to this change, growers on the Shore are jointly marketing a larger proportion of their processing sweetpotatoes. The evidence indicates that both growers and canners have benefited from this practice. Would a similar movement in marketing fresh sweetpotatoes be desirable?

While there is no simple answer to this question, there are at least two alternatives the industry should consider. These are (1) the consolidation of selling strength among shippers and (2) the development of a cooperative marketing association among growers. Insofar as the market structure is concerned, these are valid concepts. But, competent legal services should be obtained before embarking upon either program.

Our economic system is becoming more highly coordinated through large-scale specification selling at the shipping point level to parallel large-scale specification buying at the terminal market level. Conceivably, if growers and shippers on the Shore do not fully participate in this movement, buyers are apt to, either through contractual arrangements with growers or through ownership of the facilities themselves.

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To carry these suggestions through may require several intermediate steps. For example,

Large canning plants such as this process the Eastern Shore of Virginia sweetpotatoes that do not meet fresh market requirements.

growers and shippers may feel that quality control should receive first priority. While no doubt some buyers prefer their own specifications and some shippers are interested in selling their own established brands, there are important advantages in adopting industrywide standards.

Or, the industry may feel that storing a greater proportion of the crop would initally be the best alternative for increasing growers' and shippers' returns. If this decision is made, the industry must be willing and able to withstand losses arising in some years as the storage price does not always exceed the fall price by an amount necessary to cover storage costs.

On the other hand, if a decision is made not to store a greater proportion of the crop, the industry must be willing to sacrifice the gains that would have accrued to it during those years in which the storage price exceeded the fall price by an adequate amount.

The important thing is that all segments of the Eastern Shore of Virginia sweetpotato industry mutually agree on how to approach each specific problem. Once this decision is made, growers and shippers must then proceed to develop their total marketing program to answer as many specific problems as possible. And, because the answer to this year's problems may not be the right answer next year, the program should be periodically reviewed in light of prevailing and anticipated changes.

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Appendix

This appendix provides details of the sampling procedure. It also provides supplements to various text tables.

Sampling Procedure

The sampling procedure used in this study can be divided into two parts: A survey of growers and a survey of shippers.

Survey of Growers

The grower universe sampled was the total number of Eastern Shore of Virginia sweetpotato farms recorded in the most complete listing available from the Virginia Department of Agriculture and Immigration. The sampling unit was the name of the individual operating the farm. To assure geographic representation, the two counties, Accomack and Northampton, were arranged in sequence from north to south.

The names of growers were then arranged alphabetically, by towns. The first name drawn from the list was determined by using a table of random numbers. To obtain a sampling rate of one-third of the farms, every third name was selected thereafter. When a contact could not be made, the interviewer chose a grower on either side of the first one selected.

Production, harvesting, and disposition practices for the 1959 sweetpotato crop were obtained from 88 producers. These producers represented more than one-third the total number since several farms were operated on other than a single proprietorship basis. Information from these growers was expanded to represent the production patterns and marketing practices of all sweetpotato producers in the area.

Survey of Shippers

For this phase of the survey, the population studied was all sweetpotato shippers on the Eastern Shore of Virginia recorded in the most complete listing available from the Virginia Department of Agriculture and Immigration. The universe sampled was the total number of sweetpotato sales invoices for the shipping season 1959-60.

The rate at which a shipper's records were sampled varied with the volume marketed as follows:

Shipper volume (bushels)	Shipments sampled
Less than 25,000	All
25,000 - 50,000	Every third
More than 50,000	Every fifth

Modifications in the sampling procedure were necessary when data were not available on a per shipment basis.

A table of random numbers was used to determine the first invoice to be sampled. The selection of succeeding invoices corresponded to the sampling rate being used.

Using these criteria, information was obtained from 28 shippers of fresh-market sweetpotatoes and 2 shippers specializing in the marketing of sweetpotatoes not meeting fresh-market requirements. Four shippers were unable to cooperate in the survey.

Data obtained from each shipper were expaned by the appropriate sampling rate to obtain an estimate of his total shipments for the season. To avoid duplication, quantities sold by one firm to another were eliminated from the analysis.

It is estimated that the 30 shippers handled 93 percent of all fresh-market sweetpotatoes and 96 percent of all processing stock shipped. Marketing practices and methods for these organizations may thus be considered as representative of all shippers in Accomack and Northampton Counties.

Appendix table 1. — Estimated distribution of fresh-market sweetpotatoes, classified by month of sale and size of shipper, 28 shippers, Eastern Shore of Virginia, crop year 1959

Month	Percentage of total volume sold by:			Total
	Small shippers 1/	Medium shippers 2/	Large shippers 3/	
		Percent		Percent
July, 1959		0.1	13.4	7.6
August	18.6	15.5	12.4	14.0
September	29.8	21.1	19.7	21.1
October	11.9	18.8	18.0	17.8
November	16.7	6.8	11.5	10.3
December	12.0	15.1	7.4	10.6
January, 1960	5.6	12.9	6.6	8.7
February	3.0	6.5	7.3	6.6
March	2.1	2.3	3.0	2.6
April	.3	.9	.7	.7
Total	100.0	100.0	100.0	100.0

1/ Includes 10 shippers marketing less than 25,000 bushels a year.

2/ Includes 11 shippers marketing between 25,000 and 50,000 bushels a year. Month of sale unspecified for 1,400 bushels.

3/ Includes seven shippers marketing more than 50,000 bushels a year.

Appendix table 2. --Carlot truck unloads in three major cities, by state of origin, 1957-59.

State of origin	Number of carlot sweetpotato shipments in:		
	1957	1958	1959
	New York, N. Y.		
New Jersey	828	814	836
North Carolina	614	772	709
Virginia	429	351	592
Total for three States	1,871	1,937	2,137
Total from all States	2,159	2,195	2,304
	Philadelphia, Pa.		
New Jersey	720	665	708
Virginia	303	244	321
North Carolina	186	200	172
Total for three States	1,209	1,109	1,201
Total for all States	1,365	1,215	1,289
	Baltimore, Md.		
Maryland	202	217	252
New Jersey	194	146	230
Virginia	189	160	176
Total for three States	585	523	658
Total for all States	626	573	713

Source: Carlot Unloads of Certain Fruits and Vegetables in 100 U. S. and 5 Canadian Cities, Also Truck Unloads in 39 U. S. Cities and 5 Canadian Cities, Agricultural Marketing Service., U. S. Dept. of Agr.

Appendix table 3.—Percentage distribution of fresh-market sweetpotatoes classified by shipper volume and dollars received per bushel at the shipping point level, 28 shippers, Eastern Shore of Virginia, crop year 1959

Shipper volume	Estimated total volume	Percentage of volume returning									Total
		$0.75 or less	$0.76 to $1.00	$1.01 to $1.25	$1.26 to $1.50	$1.51 to $1.75	$1.76 to $2.00	$2.01 to $2.25	$2.26 to $2.50	More than $2.50	
Bushels	1,000 bushels	Percent									Percent
Less than 25,000	[1] 73.6	12.2	6.3	7.6	28.6	20.2	12.1	4.1	1.7	7.2	100
25,000 - 50,000	[2] 279.1	3.6	4.2	2.8	13.1	38.3	13.8	11.0	2.6	10.6	100
More than 50,000	[3] 305.5	11.2	15.4	11.0	9.5	14.4	12.8	14.2	7.3	4.2	100
Total or average	658.2	8.1	9.6	7.2	13.1	25.2	13.2	11.7	4.7	7.2	100

[1] Price unspecified for 11,700 bushels.
[2] Price unspecified for 79,400 bushels.
[3] Price unspecified for 256,900 bushels.

Appendix table 4.—Percentage distribution of fresh-market sweetpotatoes classified by terms of sale and dollars received per bushel at the shipping point level, 28 shippers, Eastern Shore of Virginia, crop year 1959

Terms of sale [1]	Estimated total volume	Percentage of volume returning									Total
		$0.75 or less	$0.76 to $1.00	$1.01 to $1.25	$1.26 to $1.50	$1.51 to $1.75	$1.76 to $2.00	$2.01 to $2.25	$2.26 to $2.50	More than $2.50	
	1,000 bushels	Percent									Percent
F.o.b.	[2] 147.8	17.3	20.1	14.5	9.2	12.3	6.5	6.6	3.3	10.2	100
Delivered	[3] 510.5	5.4	6.6	5.0	14.3	28.9	15.1	13.2	5.1	6.4	100
Total or average	658.3	8.1	9.6	7.2	13.1	25.2	13.2	11.7	4.7	7.2	100

[1] Terms of sale unspecified for 195,900 bushels.
[2] Price unspecified for 5,000 bushels.
[3] Price unspecified for 147,000 bushels.

Appendix table 5. — Percentage distribution of fresh-market sweetpotatoes classified by market channel and dollars received per bushel at the shipping point level, 28 shippers, Eastern Shore of Virginia, crop year 1959

Market channel [1]	Estimated total volume	Percentage of volume returning									Total
		$0.75 or less	$0.76 to $1.00	$1.01 to $1.25	$1.26 to $1.50	$1.51 to $1.75	$1.76 to $2.00	$2.01 to $2.25	$2.26 to $2.50	More than $2.50	
	1,000 bushels	Percent									Percent
Chain stores	[2] 161.8	0.4	0.1	1.0	10.9	41.6	17.5	18.5	1.0	9.0	100
Intermediary handlers	[3] 471.5	11.2	13.4	9.6	14.6	15.6	12.4	10.0	6.2	7.0	100
Total or average	633.3	8.4	10.0	7.4	13.7	22.2	13.7	12.1	4.9	7.6	100

[1] Market channel unspecified for 25,000 bushels.

[2] Price unspecified for 142,700 bushels.

[3] Price unspecified for 205,200 bushels.

Appendix table 6. --Percentage distribution of fresh-market sweetpotatoes classified by destination of sales and dollars received per bushel at the shipping point level, 28 shippers, Eastern Shore of Virginia, crop year 1959

Receiving market	Estimated total volume	Percentage of volume returning									Total
		$0.75 or less	$0.76 to $1.00	$1.01 to $1.25	$1.26 to $1.50	$1.51 to $1.75	$1.76 to $2.00	$2.01 to $2.25	$2.26 to $2.50	More than $2.50	
	1,000 bushels	Percent									Percent
New York, N.Y.	[1] 178.4	5.8	9.3	8.0	13.0	22.1	15.5	13.0	7.7	5.6	100
Philadelphia, Pa.	[2] 59.7	7.0	7.9	4.7	19.0	17.9	8.8	6.9	9.2	18.6	100
Baltimore, Md.	[3] 69.3	6.6	6.0	3.4	14.9	24.0	12.2	5.9	6.4	20.6	100
Boston, Mass.	[4] 11.1	30.0	-	.4	14.4	22.4	16.3	2.9	-	13.6	100
Atlanta, Ga.	45.9	4.1	53.2	34.9	2.0	4.4	-	-	1.4	-	100
Total or average	364.4	6.7	13.7	9.7	13.0	19.5	11.9	8.7	6.7	10.1	100

[1] Price unspecified for 148,900 bushels.

[2] Price unspecified for 61,100 bushels.

[3] Price unspecified for 46,500 bushels.

[4] Price unspecified for 36,300 bushels.

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